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L1 QUE (HEPARINASE OR HEPARANASE OR (HEPARIN (W) LYASE)
OR (HEPARAN (W) LYASE))

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FILE 'DGENE' ENTERED AT 10:38:03 ON 22 JAN 2007
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=> dup rem L5
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L6 ANSWER 1 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2007:11578 USPATFULL <<LOGINID::20070122>>
TITLE: Synthetic heparanase molecules and uses thereof
INVENTOR(S): Steinkuhler, Christian, Promezia, ITALY
Lahm, Armin, Promezia, ITALY
Pallaoro, Michele, Promezia, ITALY
Nardella, Caterina, Promezia, ITALY

NUMBER KIND DATE

PATENT INFORMATION: US 2007009989 A1 20070111
APPLICATION INFO.: US 2004-572796 A1 20040917 (10)
WO 2004-EP10517 20040917
20060321 PCT 371 date

NUMBER DATE

PRIORITY INFORMATION: US 2003-506479P 20030926 (60)
US 2004-537729P 20040120 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MERCK AND CO., INC, P O BOX 2000, RAHWAY, NJ,
07065-0907, US
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 2172

AB The present invention relates to synthetically produced, enzymatically active heparanase nucleic acid molecules that are capable of expression in high yield heterologous expression systems, and to polypeptides encoded by said molecules. Also provided herein are methods of expressing mammalian heparanase in heterologous expression systems, wherein high yields of biologically active heparanase are produced compared to prior art methods.

L6 ANSWER 2 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2006:150967 USPATFULL <<LOGINID::20070122>>
TITLE: Pharmaceutical compositions and methods useful for
modulating angiogenesis, inhibiting metastasis and
tumor fibrosis, and assessing the malignancy of colon
cancer tumors
INVENTOR(S): Neufeld, Gera, Haifa, ISRAEL
Akiri, Gal, Haifa, ISRAEL
Vadasz, Zahava, Haifa, ISRAEL
Gengrinovitch, Stela, Merom Galil, ISRAEL
PATENT ASSIGNEE(S): Technion Research & Development Foundation Ltd.,
Technion City, ISRAEL (non-U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 2006127402 A1 20060615
APPLICATION INFO.: US 2003-536440 A1 20031127 (10)
WO 2003-IL1008 20031127
20051114 PCT 371 date

NUMBER DATE

PRIORITY INFORMATION: US 2002-10305348 20021127
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Martin Moynihan, Anthony Castorina, Suite 207, 2001
Jefferson Davis Highway, Arlington, VA, 22202, US

NUMBER OF CLAIMS: 51
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 17 Drawing Page(s)
LINE COUNT: 3438

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions suitable for modulating angiogenesis in a
mammalian tissue are provided. Further provided are methods suitable for
inhibiting metastasis and fibrosis in a mammalian tissue and for
assessing the malignancy of colon cancer tumors.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 3 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2005:118259 USPATFULL <<LOGINID::20070122>>
TITLE: Protamine fragment compositions and methods of use
INVENTOR(S): Yang, Victor C., Ann Arbor, MI, UNITED STATES
Byun, Youngro, Kwangsan-Ku Kwangju, KOREA, REPUBLIC OF

NUMBER KIND DATE

PATENT INFORMATION: US 2005101532 A1 20050512
APPLICATION INFO.: US 2003-668663 A1 20030923 (10)
RELATED APPLN. INFO.: Division of Ser. No. US 2000-700967, filed on 16 Nov
2000, GRANTED, Pat. No. US 6624141 A 371 of
International Ser. No. WO 2000-US6876, filed on 15 Mar
2000

NUMBER DATE

PRIORITY INFORMATION: US 1999-124873P 19990317 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: WILLIAMS, MORGAN & AMERSON, P.C., 10333 RICHMOND, SUITE
1100, HOUSTON, TX, 77042, US
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1-47
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 2727

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Provided are bioactive, low-toxicity protamine fragments, compositions,
combinations, kits and methods of using these components in a variety of
embodiments, including neutralizing heparin and reducing post-operative
bleeding. Improved protamine fragment-insulin solutions and methods for
treating diabetes are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 4 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2002:108833 USPATFULL <<LOGINID::20070122>>
TITLE: Human platelet heparanase polypeptides, polynucleotide
molecules that encode them, and methods for the
identification of compounds that alter heparanase
activity
INVENTOR(S): Heinrikson, Robert Leroy, Plainwell, MI, United States
Fairbanks, Michael B., Kalamazoo, MI, United States
Mildner, Ana M., Kalamazoo, MI, United States

PATENT ASSIGNEE(S): Pharmacia and Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 6387643 B1 20020514
APPLICATION INFO.: US 1999-252586 19990218 (9)

NUMBER DATE

PRIORITY INFORMATION: US 1998-75706P 19980224 (60)
US 1998-79401P 19980326 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: McGarry, Sean
ASSISTANT EXAMINER: Epps, Janet
LEGAL REPRESENTATIVE: Rehberg, Edward F., Kerber, Lori E.
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 1875

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides isolated human heparanase polypeptides, and the isolated polynucleotide molecules that encode them, as well as vectors and host cells comprising such polynucleotide molecules. The invention also provides a method for the identification of an agent that alters heparanase activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 5 OF 23 Elsevier BIOBASE COPYRIGHT 2007 Elsevier Science B.V. on STN DUPLICATE

ACCESSION NUMBER: 2003037224 ESBIOBASE <<LOGINID::20070122>>

TITLE: Cell surface targeting of pregnancy-associated plasma protein A proteolytic activity: Reversible adhesion is mediated by two neighboring short consensus repeats

AUTHOR: Laursen L.S.; Overgaard M.T.; Weyer K.; Boldt H.B.; Ebbesen P.; Christiansen M.; Sottrup-Jensen L.; Giudicelli L.C.; Oxvig C.

CORPORATE SOURCE: C. Oxvig, Department of Molecular Biology, Science Park, University of Aarhus, Gustav Wieds Vej 10C, DK-8000 Aarhus C, Denmark.
E-mail: co@mb.au.dk

SOURCE: Journal of Biological Chemistry, (06 DEC 2002), 277/49 (47225-47234), 51 reference(s)
CODEN: JBCHA3 ISSN: 0021-9258

DOCUMENT TYPE: Journal; Article

COUNTRY: United States

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The activities of insulin-like growth factor (IGF)-I and -II are regulated by IGF-binding proteins (IGFBPs). ***Cleavage*** of IGFBP-4 by the metalloproteinase pregnancy-associated plasma protein-A (PAPP-A) causes release of bound IGF and has been established in several biological systems including the ***human*** reproductive system. Using flow cytometry, we first demonstrate that PAPP-A reversibly binds to the cell surface of several cell types analyzed. Heparin and heparan sulfate, but not dermatan or chondroitin sulfate, effectively compete for PAPP-A surface binding, and because incubation of cells with ***heparinase*** abrogated PAPP-A adhesion, binding is probably mediated by a cell surface heparan sulfate proteoglycan. Furthermore, the proteolytic activity of PAPP-A is preserved while bound to cells, suggesting that adhesion functions to target its activity to the vicinity of the IGF receptor, decreasing the probability that released IGF is captured by another IGFBP molecule before receptor binding. This mechanism potentially functions in both autocrine and paracrine regulation, as PAPP-A need not be synthesized in a cell to which it adheres. A truncated PAPP-A variant without the five short consensus repeats in the C-terminal third of the 1547-residue PAPP-A subunit, lacked surface binding. We also show that PAPP-A2, a recently discovered

IGFBP-5 proteinase with homology to PAPP-A, does not bind cells. This finding allowed further mapping of the PAPP-A adhesion site to short consensus repeat modules 3 and 4 by the expression and analysis of nine PAPP-A/PAPP-A2 ***chimeras***. Interestingly, the proteolytically inactive, disulfide-bound complex of PAPP-A and the proform of eosinophil major basic protein (proMBP), PAPP-A.midldot.proMBP, shows only weak surface binding, probably because the adhesion site of PAPP-A is occupied by heparan sulfate, known to be covalently bound to proMBP. This hypothesis was further substantiated by demonstrating that ***heparinase*** treatment of PAPP-A.midldot.proMBP restores surface binding. We finally propose a model in which IGF bioactivity is regulated by reversible cell surface binding of PAPP-A, which in turn is regulated by proMBP.

L6 ANSWER 6 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2001:82563 USPATFULL <<LOGINID::20070122>>

TITLE: Isolated nucleic acid molecule encoding mammalian endoglucuronidase and uses therefor

INVENTOR(S): Freeman, Craig Geoffrey, Rivett, Australia
Hulett, Mark Darren, Cook, Australia
Parish, Christopher Richard, Campbell, Australia
Hamdorf, Brenton James, Swinger Hill, Australia

PATENT ASSIGNEE(S): The Australian National University, Acton, Australia
(non-U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 6242238 B1 20010605
APPLICATION INFO.: US 1998-181336 19981028 (9)

NUMBER DATE

PRIORITY INFORMATION: AT 1997-62 19971028
AT 1997-812 19971209

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Achutamurthy, Ponnathapu

ASSISTANT EXAMINER: Rao, Manjunath N.

LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, LLP

NUMBER OF CLAIMS: 36

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 7 Drawing Figure(s); 5 Drawing Page(s)

LINE COUNT: 2031

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to isolated or recombinant mammalian endoglucuronidase enzymes, polypeptides and peptides, in particular human, murine and rat heparanases, genetic sequences encoding same and uses therefor, for example in the determination and characterisation of chemical compounds, proteins, polypeptides, small molecules and macromolecules capable of inhibiting metastasis, angiogenesis, angioplasty-induced restenosis, atherosclerosis, inflammation, promote wound healing and otherwise modulate physiological processes involving heparanase cleavage of heparan sulphate. The invention further relates to a method of altering, modifying or otherwise modulating the level of expression of mammalian heparanase in a cell. A further aspect of the invention relates to immunoreactive molecules capable of binding to and/or inhibiting mammalian heparanase, in particular monoclonal antibodies. A still further aspect of the invention contemplates the use of heparanase as an agent to promote the processes of wound healing.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 7 OF 23 Elsevier BIOBASE COPYRIGHT 2007 Elsevier Science B.V. on STN DUPLICATE

ACCESSION NUMBER: 2003296249 ESBIODASE <<LOGINID::20070122>>

TITLE: Expression Pattern and Secretion of Human and Chicken Heparanase Are Determined by Their Signal Peptide Sequence

AUTHOR: Goldshmidt O.; Zcharia E.; Aingorn H.; Guatta-Rangini Z.; Atzmon R.; Michal I.; Pecker I.; Mitrani E.;

Vlodavsky I.
CORPORATE SOURCE: I. Vlodavsky, Dept. of Oncology, Hadassah Hospital, P.
O. Box 12000, Jerusalem 91120, Israel.
E-mail: Vlodavsk@cc.huji.ac.il
SOURCE: Journal of Biological Chemistry, (03 AUG 2001), 276/31
(29178-29187), 48 reference(s)
CODEN: JBCHA3 ISSN: 0021-9258

DOCUMENT TYPE: Journal; Article

COUNTRY: United States

LANGUAGE: English

SUMMARY LANGUAGE: English

AB ***Cleavage*** of heparan sulfate (HS) proteoglycans affects the integrity and function of tissues and thereby fundamental phenomena, involving cell migration and response to changes in the extracellular microenvironment. The role of HS-degrading enzymes, commonly referred to as heparanases, in normal development has not been identified. The present study focuses on cloning, expression, and properties of a chicken ***heparanase*** and its distribution in the developing chicken embryo. We have identified a chicken EST, homologous to the recently cloned ***human*** ***heparanase***, to clone and express a functional chicken ***heparanase***, 60% homologous to the ***human*** enzyme. The full-length chicken ***heparanase*** cDNA encodes a 60-kDa proenzyme that is processed at the N terminus into a 45-kDa highly active enzyme. The most prominent difference between the chicken and ***human*** enzymes resides in the predicted signal peptide sequence, apparently accounting for the chicken ***heparanase*** being readily secreted and localized in close proximity to the cell surface. In contrast, the ***human*** enzyme is mostly intracellular, localized in perinuclear granules. Cells transfected with a ***chimeric*** construct composed of the chicken signal peptide preceding the ***human*** ***heparanase*** exhibited cell surface localization and secretion of ***heparanase***, similar to cells transfected with the full-length chicken enzyme. We examined the distribution pattern of the ***heparanase*** enzyme in the developing chicken embryo. Both the chicken ***heparanase*** mRNA and protein were expressed, as early as 12 h post fertilization, in cells migrating from the epiblast and forming the hypoblast layer. Later on (72 h), the enzyme is preferentially expressed in cells of the developing vascular and nervous systems. Cloning and characterization of ***heparanase***, the first and single functional vertebrate HS-degrading enzyme, may lead to identification of other glycosaminoglycan degrading enzymes, toward elucidation of their significance in normal and pathological processes.

L6 ANSWER 8 OF 23 USPATFULL on STN

ACCESSION NUMBER: 94:64487 USPATFULL <<LOGINID::20070122>>

TITLE: Solid-phase substrate containing modified heparin

INVENTOR(S): Nicolson, Garth L., Kingswood, TX, United States

Nakajima, Motowo, Houston, TX, United States

Irimura, Tatsuro, Bellaire, TX, United States

PATENT ASSIGNEE(S): Board of Regents, The University of Texas System,
Austin, TX, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 5332812 19940726

APPLICATION INFO.: US 1991-776691 19911015 (7)

RELATED APPLN. INFO.: Division of Ser. No. US 1989-377015, filed on 7 Jul

1989, now abandoned which is a division of Ser. No. US

1987-12860, filed on 20 Feb 1987, now patented, Pat.

No. US 4859581 which is a continuation-in-part of Ser.

No. US 1986-839890, filed on 10 Mar 1986, now abandoned

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Brown, Johnnie R.

ASSISTANT EXAMINER: Fonda, Kathleen Kahler

LEGAL REPRESENTATIVE: Arnold, White & Durkee

NUMBER OF CLAIMS: 30

EXEMPLARY CLAIM: 12

NUMBER OF DRAWINGS: 10 Drawing Figure(s); 5 Drawing Page(s)

LINE COUNT: 1431

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB. A solid phase substrate which yields soluble labeled products upon hydrolysis by a glycosaminoglycan endoglycosidase and methods of producing said substrate are comprised in the present invention. The solid phase substrate comprises glycosaminoglycan bearing labeled substances bound to amino groups. The labeled glycosaminoglycan substrate is reductively aminated at its reducing terminal end to produce an amine-terminus. The substrate is further coupled to an amino-reactive solid matrix through its amine-terminus.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 9 OF 23 USPATFULL on STN

ACCESSION NUMBER: 89:69679 USPATFULL <<LOGINID::20070122>>

TITLE: Endoglycosidase assay

INVENTOR(S): Nicolson, Garth L., Kingwood, TX, United States

Nakajima, Motowo, Houston, TX, United States

Irimura, Tatsuro, Bellaire, TX, United States

PATENT ASSIGNEE(S): Board of Regents, The University of Texas System,
Austin, TX, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 4859581 19890822

APPLICATION INFO.: US 1987-12860 19870220 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1986-839890, filed
on 10 Mar 1986

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Rosen, Sam

LEGAL REPRESENTATIVE: Arnold, White & Durkee

NUMBER OF CLAIMS: 22

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 8 Drawing Figure(s); 5 Drawing Page(s).

LINE COUNT: 1362

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A solid phase substrate which yields soluble labeled products upon hydrolysis by a glycosaminoglycan endoglycosidase and methods of producing said substrate are comprised in the present invention. The solid phase substrate comprises glycosaminoglycan bearing labeled substances bound to amino groups. The labeled glycosaminoglycan substrate is reductively aminated at its reducing terminal end to produce an amine-terminus. The substrate is further coupled to an amino-reactive solid matrix through its amine-terminus.

A method of producing the solid phase substrate comprises the steps of: at least partially N-desulfating or N-deacylating a glycosaminoglycan; labeling at least partially N-deacylated or N-desulfated glycosaminoglycan with a substance yielding detectable signals to produce labeled glycosaminoglycan; completely N-acylating the labeled glycosaminoglycan with acyl anhydride or acyl halide; reductively aminating a reducing terminal end of said labeled glycosaminoglycan to produce labeled amine-terminal glycosaminoglycan; and coupling, through its terminal amine, the labeled amine-terminal glycosaminoglycan to an amino-reactive solid phase support to produce the solid phase substrate.

The solid phase substrate is usable to detect metastatic tumors by measurement of serum heparanase levels. The potential metastases of a tumor may also be determined by its heparanase levels.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 10 OF 23 BIOTECHNO COPYRIGHT 2007 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1987:17142944 BIOTECHNO <<LOGINID::20070122>>

TITLE: Inhibition of heparanase-mediated degradation of

extracellular matrix heparan sulfate by

non-anticoagulant heparin species

AUTHOR: Bar-Ner M.; Eldor A.; Wasserman L.; Matzner Y.; Cohen

I.R.; Fuks Z.; Vlodavsky I.

CORPORATE SOURCE: Department of Radiation and Clinical Oncology,

Hadassah University Hospital, P.O. Box 12000, il 91
120 Jerusalem, Israel.

SOURCE: Blood, (1987), 70/2 (551-557)
CODEN: BLOOAW ISSN: 0006-4971

DOCUMENT TYPE: Journal; Article

COUNTRY: United States

LANGUAGE: English

AN 1987:17142944 BIOTECHNO <<LOGINID::20070122>>

AB Incubation of ***human*** platelets, ***human*** neutrophils, or highly metastatic mouse lymphoma cells with sulfate-labeled extracellular matrix (ECM) results in ***heparanase***-mediated release of labeled heparan sulfate ***cleavage*** fragments ($0.5 < K_{av} < 0.85$ on Sepharose 6B). This degradation was inhibited by native heparin both when brought about by intact cells or their released ***heparanase*** activity. Degradation of heparan sulfate in ECM may facilitate invasion of normal and malignant cells through basement membranes. The present study tested the ***heparanase*** inhibitory effect of nonanticoagulant species of heparin that might be of potential use in preventing ***heparanase*** mediated extravasation of bloodborne cells. For this purpose, we prepared various species of low-sulfated or low-mol-wt heparins, all of which exhibited <7% of the anticoagulant activity of native heparin. N-sulfate groups of heparin are necessary for its ***heparanase*** inhibitory activity but can be substituted by an acetyl group provided that the O-sulfate groups are retained. O-sulfate groups could be removed provided that the N positions were resulfated. Total desulfation of heparin abolished its ***heparanase*** inhibitory activity. Heparan sulfate was a 25-fold less potent ***heparanase*** inhibitor than native heparin. Efficiency of low-mol-wt heparins to inhibit degradation of heparan sulfate in ECM decreased with their main molecular size, and a ***synthetic*** pentasaccharide, representing the binding site to antithrombin III, was devoid of inhibitory activity. Similar results were obtained with ***heparanase*** activities released from platelets, neutrophils, and lymphoma cells. We propose that ***heparanase*** inhibiting nonanticoagulant heparins may interfere with dissemination of bloodborne tumor cells and development of experimental autoimmune diseases.

L6 ANSWER 11 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18995 protein DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase consensus cleavage site #2.

AN ADZ18995 protein DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a ***human*** ***heparanase*** consensus ***cleavage*** site used in the scope of the invention.

L6 ANSWER 12 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ19012 protein DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites

located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase protein.

AN ADZ19012 protein DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a ***human*** ***heparanase*** protein used in the scope of the invention.

L6 ANSWER 13 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18994 protein DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase consensus cleavage site #1.

AN ADZ18994 protein DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a ***human*** ***heparanase*** consensus ***cleavage*** site used in the scope of the invention.

L6 ANSWER 14 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18986 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #7.

AN ADZ18986 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by

endoproteinase. The sequences are useful for expressing mammalian
heparanase in non-mammalian cells and in inhibitor screening
assays for the development of therapeutics or pharmaceuticals for
inhibiting or treating metastasis, autoimmune disease and/or
inflammation. This sequence represents a PCR primer used to amplify
human ***heparanase*** construct DNA used in the scope of the
invention.

L6 ANSWER 15 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18985 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #6.

AN ADZ18985 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that
encodes mammalian ***heparanase*** protein, where the nucleic acid
comprises two consensus ***cleavage*** sites recognized by
endoproteinase. The sequences are useful for expressing mammalian
heparanase in non-mammalian cells and in inhibitor screening
assays for the development of therapeutics or pharmaceuticals for
inhibiting or treating metastasis, autoimmune disease and/or
inflammation. This sequence represents a PCR primer used to amplify
human ***heparanase*** construct DNA used in the scope of the
invention.

L6 ANSWER 16 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18988 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #8.

AN ADZ18988 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that
encodes mammalian ***heparanase*** protein, where the nucleic acid
comprises two consensus ***cleavage*** sites recognized by
endoproteinase. The sequences are useful for expressing mammalian
heparanase in non-mammalian cells and in inhibitor screening
assays for the development of therapeutics or pharmaceuticals for
inhibiting or treating metastasis, autoimmune disease and/or
inflammation. This sequence represents a PCR primer used to amplify
human ***heparanase*** construct DNA used in the scope of the
invention.

L6 ANSWER 17 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18984 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #5.

AN ADZ18984 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 18 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18980 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #1.

AN ADZ18980 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 19 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18981 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #2.

AN ADZ18981 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by

endoproteinase. The sequences are useful for expressing mammalian
heparanase in non-mammalian cells and in inhibitor screening
assays for the development of therapeutics or pharmaceuticals for
inhibiting or treating metastasis, autoimmune disease and/or
inflammation. This sequence represents a PCR primer used to amplify
human ***heparanase*** construct DNA used in the scope of the
invention.

L6 ANSWER 20 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18990 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #9.

AN ADZ18990 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that
encodes mammalian ***heparanase*** protein, where the nucleic acid
comprises two consensus ***cleavage*** sites recognized by
endoproteinase. The sequences are useful for expressing mammalian
heparanase in non-mammalian cells and in inhibitor screening
assays for the development of therapeutics or pharmaceuticals for
inhibiting or treating metastasis, autoimmune disease and/or
inflammation. This sequence represents a PCR primer used to amplify
human ***heparanase*** construct DNA used in the scope of the
invention.

L6 ANSWER 21 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18992 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #10.

AN ADZ18992 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that
encodes mammalian ***heparanase*** protein, where the nucleic acid
comprises two consensus ***cleavage*** sites recognized by
endoproteinase. The sequences are useful for expressing mammalian
heparanase in non-mammalian cells and in inhibitor screening
assays for the development of therapeutics or pharmaceuticals for
inhibiting or treating metastasis, autoimmune disease and/or
inflammation. This sequence represents a PCR primer used to amplify
human ***heparanase*** construct DNA used in the scope of the
invention.

L6 ANSWER 22 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18983 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #4.

AN ADZ18983 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 23 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN

ACCESSION NUMBER: ADZ18982 DNA DGENE

TITLE: Synthetic nucleic acid for e.g. inhibitor screening,
comprises a nucleotide sequence that encodes mammalian
heparanase protein and has two consensus cleavage sites
located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C

PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.

PATENT INFO: WO 2005030962 A1 20050407 65

APPLICATION INFO: WO 2004-EP10517 20040917

PRIORITY INFO: US 2003-506479P 20030926

US 2004-537729P 20040120

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2005-273382 [28]

DESCRIPTION: Human heparanase construct DNA PCR primer #3.

AN ADZ18982 DNA DGENE

AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

=> d his

L1 QUE (HEPARINASE OR HEPARANASE OR (HEPARIN (W) LYASE) OR (HEPARA

FILE 'DGENE, CAPLUS, BIOSIS, MEDLINE, EMBASE, SCISEARCH, USPATFULL,
ESBIOBASE, BIOTECHNO, TOXCENTER, WPIDS' ENTERED AT 10:38:03 ON 22 JAN 2007

L2 14101 S L1

L3 3882 S HUMAN (S) L2

L4 157 S (SYNTHETIC OR CHIMER?) (S) L3

L5 25 S CLEAV? (S) L4

L6 23 DUP REM L5 (2 DUPLICATES REMOVED)

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